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ABSTRACT

One of a series of nine reports of Project ACTIVE (Attaining Competence for Teaching in Vocational Education), this report focuses on the criteria for assessing mastery of the professional competencies (skills) important to vocational educators involved in research and evaluation. An overview of competency-based vocational teacher education (CBTE) and of the Florida exemplary CBTE project is provided as introduction. Part 1 describes the competency identification phase of the leadership in research and evaluation component including review of related research; report of a questionnaire survey of 214 representative teacher educators, county vocational directors, administrators, supervisors, coordinators, teachers, and national research personnel in Florida; the findings (competencies with mean importance ratings); and conclusions. Part 2 describes the procedures for identifying and validating of specific criteria for assessing mastery of the competencies and lists the criteria in a 6-page table under 54 competency statements grouped into the following categories: (1) Review and analysis of completed research, (2) conducting research, (3) evaluation, and (4) management. It is recommended that the assessment criteria be reviewed and revised to fit the needs of particular preservice or inservice programs designed to prepare or upgrade persons involved in conducting, evaluating, disseminating, or applying research and evaluation in vocational education. Appendixes contain instruments used in the study. A bibliography is included. (TA)

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EXEMPLARY COMPETENCY-BASED VOCATIONAL TEACHER EDUCATION PROJECT:

RESEARCH AND EVALUATION COMPONENT

COMPETENCY AND CRITERIA IDENTIFICATION PHASE:

PROFESSIONAL RESEARCH AND EVALUATION COMPETENCIES AND ASSESSMENT CRITERIA FOR VOCATIONAL EDUCATORS IN FLORIDA

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Final Report of
Competency and Criteria Identification Phase
Of Research and Evaluation Component

Project No. VTAD-5 #6-0128

From September, 1975 to June, 1976

EXEMPLARY COMPETENCY-BASED VOCATIONAL TEACHER EDUCATION PROJECT: RESEARCH AND EVALUATION COMPONENT

PROFESSIONAL RESEARCH AND EVALUATION COMPETENCIES AND ASSESSMENT CRITERIA FOR VOCATIONAL EDUCATORS IN FLORIDA

Program of Vocational Education
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The project reported herein was conducted pursuant to a grant from the Division of Vocational Education, Florida Department of Education. Contractors undertaking such projects are encouraged to express freely their professional judgments in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent the official position or policy of the Florida Department of Education.

FOREWORD

The competency-based teacher education (CBTE) movement is being explored as a viable alternative to the traditional time-based, course oriented approach to teacher education. The field of vocational-technical teacher education has been involved in CBTE for some time. Several states and teacher education institutions are developing and implementing competency-based programs aimed at preparing and certifying professionally competent vocational educators at various levels. Florida's commitment to competency-based vocational teacher education is well-known.

In an effort to promote CBTE for vocational education, the Florida Department of Education, Division of Vocational Education funded the initial phase of an exemplary competency-based vocational teacher education project at Florida State University. This project, called Project ACTIVE is aimed at developing a viable competency-based approach to preparing vocational teachers, administrators, supervisors, and related professionals.

Several individuals have contributed significantly to the progress of this project. Mr. Joe Mills, Director of Vocational Education, Division of Vocational Education, Florida State Department of Education, and Dr. Kenneth Eaddy, Chief, Bureau of Vocational Research, Dissemination and Evaluation, have demonstrated their personal and professional commitments to the competency-based approach. Their support and leadership have made this project possible.

The project staff wishes to acknowledge the valuable contribution made by jury members who validated preliminary competency statements and assessment criteria. Their input has added greatly to the validity of the project findings. The reader should refer to pages 25 and 42 for a complete listing of jury members. Dr. Hollie Thomas, Associate Professor, Florida State University, assisted with the Research and Evaluation component of the project. Finally, vocational educators throughout Florida who responded to the survey instrument are gratefully acknowledged.

Robert E. Andreyka
Project Director & Program Leader
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This report is one of a series that focuses on the competency and criteria identification phase of the Exemplary Competency-Based Vocational Teacher Education Project at Florida State University. Each report covers one of the teaching, leadership, or special needs components within the project. This series of reports is listed below:

Report No.

TEACHING COMPONENTS

1. COOPERATIVE VOCATIONAL EDUCATION
2. INDUSTRIAL ARTS (competency ident. only)
3. TRADE AND INDUSTRIAL (also delivery system)
4. VOCATIONAL BUSINESS EDUCATION

LEADERSHIP COMPONENTS

5. ADMINISTRATION/SUPERVISION
6. CAREER EDUCATION
7. RESEARCH AND EVALUATION

SPECIAL NEEDS COMPONENTS

8. DISADVANTAGED
9. HANDICAPPED

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OVERVIEW

OVERVIEW

COMPETENCY-BASED VOCATIONAL TEACHER EDUCATION

Very few movements in education have received more widespread attention than the competency-based teacher education (CBTE) movement. Houston and Howsam (1972) reported that rarely, if ever, has any movement swept through teacher education so rapidly or captured the attention of so many in so short a time as has the competency-based movement. Already well underway, the approach offers promise of renovating and regenerating teacher education. Equally significant, the authors added, it appears probable that it will do so in record time.

For those who doubt whether competency-based teacher education is with us to stay, the following sampling of national involvement in CBTE may be somewhat surprising (Andreyka and Blank, 1976):

- over 30 states report either legislative/administrative support for CBTE or are studying the concept seriously;
- nearly a hundred teacher education institutions report either "total" CBTE programs or alternative programs;
- there are at least 20 national consortia, institutes, centers or other groups whose primary or major function is the promotion of the CBTE movement; and
- literally hundreds of articles, position papers, monographs and other publications dealing specifically with CBTE appear monthly.

It seems, then, that much of the time we now spend philosophizing and debating the relative merits and demerits of CBTE and whether it will survive should, perhaps, be directed toward implementing the concept and making it work.

Origin of the CBTE Movement

Like any major educational trend, it is impossible to establish the exact date marking the beginning of the competency-based teacher education movement. The concept seems to have evolved slowly and steadily during the past two decades. Schmieder (1973) has identified some of the motivational forces that appear to have given impetus to the CBTE movement:

1. Introspection of the Educational Community
2. Emphasis on accountability

3. Increased focus of political action on fiscal issues

4. Management organization movement

5. Press for personalization and individualization of education

6. Desire of state education departments to develop more effective certification processes and standards.

Elam (1971) in one of the earliest in-depth looks at the competency-based teacher education movement, placed the origins of CBTE somewhat earlier. He pointed out that CBTE predates the current rage for accountability and most probably has its roots in the general conditions present in society and the institutional responses to them characteristic of the Sixties.

The vocational teacher education field has been involved in the CBTE movement for some time. Early studies by Walsh (1960), Courtney (1968), Crawford (1967), Ratner (1967) and others were aimed at identifying competencies important to vocational and technical teachers and related personnel. The comprehensive competency-based vocational teacher education research and development project at the Center for Vocational Education (Cotrell, et al, 1971) was begun in 1967, before the development of much of the current popularity of CBTE.

Need For Competency-Based Vocational Teacher Education

For many years, vocational and technical teachers, administrators, supervisors and related personnel have received their professional preparation in traditional university-based programs. These programs usually consist of a series of courses focusing upon the acquisition of knowledge and which culminate in a paper and pencil evaluation. This course-oriented approach for preparing teachers and individuals in leadership roles is coming under criticism for not meeting the real needs of practitioners (Finch and Hamilton, 1975; Norton et al, 1975).

Among the shortcomings associated with the traditional approach are:

1. Objectives are vague or general

2. Program is content and textbook-oriented

3. Assessment is only cognitive in scope

4. Content and objectives are based upon tradition

5. Program focuses on general principles but seldom relates these to the problems faced by educators

6. Instruction is not tailored to the needs of individuals

7. The end product is not systematically evaluated

8. Minimum standards of acceptable performance are not established.

Finch and Hamilton (1975) reported that many of the professional courses completed by vocational and technical teachers are offered in random sequence and often focus on principles and techniques related only generally to the teacher's actual role in the classroom and laboratory. Schaefer (1971) reported that present vocational teacher education programs amount to nothing more than small encounters with a large and complex personnel development problem.

Competency-Based Vocational Teacher Education Programs

An increasing number of vocational-technical teacher education programs are exploring the competency-based approach for preparing teachers, administrators, supervisors, and related professionals. Some programs have primarily focused on the professional needs of teachers in particular service areas while others have addressed the professional needs of vocational-technical educators in several service areas and levels. While space does not permit a detailed review of competency-based vocational-technical teacher education programs currently in operation, the following does give a brief overview of some CBTE research and development activities which have focused on identifying competencies needed by vocational educators at various levels and in several service areas.

A study by Courtney (1968) identified the need for a common core approach to competency identification. Courtney reported that much of the controversy surrounding teacher education deals with determining what should be included in programs. A second study (Courtney and Halfin, 1969) involved the identification of professional competencies needed by instructors in vocational agriculture, home economics, trade and industrial education, distributive education, and business education. Forty randomly selected teachers from four different states participated in the study. An important aspect of this research was the use of factor analysis for grouping competencies into categories.

Spaziani and Courtney (1971) conducted a research project in which secondary and community college teachers were asked

to rate 99 professional competencies. The rating scale used was an adaptation of Bloom's taxonomy of educational objectives (Bloom, 1956). Competencies were rated according to level of proficiency needed by teachers: knowledge, comprehension, application, analysis, synthesis, or evaluation.

Terry, Thompson, and Evans (1972) completed a study in Illinois in which 107 vocational educators from all service areas were assembled and asked to identify and categorize professional competencies needed by vocational and technical teachers. Four-hundred-seventy-seven competencies were identified in this manner.

A comprehensive common core CBTE research and development project was conducted by the Center for Vocational Education at The Ohio State University (Cotrell et al., 1971). First, professional competencies (performance elements) common to teachers in all vocational service areas were identified as well as additional competencies important to teacher-coordinators in cooperative vocational education programs. Performance-oriented objectives were then developed for each performance element identified. A total of 384 performance elements were identified by the Center's research.

Next, self-instructional curricular materials based upon the competencies previously identified were developed. Modules were developed that were designed to help teacher trainees attain specific professional competencies. More than 100 separate modules in 10 categories were developed that incorporated the 384 performance elements (Center for Vocational Education, 1974).

These competency-based teacher education modules underwent advanced testing at Colorado State University, Rutgers University, and Florida State University during 1975 (Center for Vocational Education, 1975). Ten additional test sites were added during the Fall of 1975, one in each of the 10 United States Office of Education regions (Hamilton, 1975).

Volger and Patton (1974) reported on a department-wide CBTE program in the University of Michigan occupational educational program. This program was designed to prepare trade and industrial, health occupations, vocational business, and distributive education teachers with generic professional competencies. This program began in 1971 and is now fully implemented. Competencies originally identified by the Center for Vocational Education constituted the basis of the program.

Competency-Based Vocational Teacher Education In Florida

There has been a considerable amount of research and development activity in competency-based vocational-technical teacher education in Florida. In its 1974 report, the Florida State Advisory Council for Vocational-Technical Education recommended that efforts to identify unique competencies needed by teachers in specific vocational program areas be continued and upgraded (Florida Department of Education, 1974). It was reported that during fiscal year 1974 work was begun in State Department funded projects to identify unique professional competencies in home economics, industrial, and diversified education.

In a publication entitled The Florida Program For Improving the Training, Evaluation, and Licensure of Educational Personnel (Florida Department of Education, 1971) it was reported that the executive committee of the Teacher Education Advisory Council requested that a plan be devised to improve teacher education and certification in this state. Current research and development activities reported included:

1. Develop comprehensive statements of teacher competencies and develop instruments for assessing them

2. Conduct research to demonstrate the relationship between teaching competency and student learning

3. Identify and produce material for training teachers and other educational personnel in specified competencies

4. Assist institutions and school districts with staff development for teacher training personnel.

A study was conducted in 1972 (Lima) to identify competencies important to Florida's business education teachers. In 1974, a study was conducted in Florida aimed at identifying common and unique competencies for teacher coordinators in work experience and diversified cooperative training programs. A study completed in 1975 (Perkins) identified 164 professional competencies important to Florida's trade and industrial education teachers.

Phase I of a competency-based teacher education project aimed at trade and industrial education teachers has been completed in the state of Florida (Andreyka, 1975). This program has identified 32 entry level competencies needed by that state's T & I teachers. Also identified were assessment criteria that may be used to assess mastery of the competencies. The project also involved the review of samples of competency-based teacher education instructional materials available from

throughout the country. A wide variety of individuals was involved in competency and criteria identification and validation. Participating were trade and industrial education teachers, administrators and supervisors, teacher educators, state department representatives, Board of Regents representative, and the Florida Industrial Education Association.

Phase II of this project addressed four major issues involved in implementing CBTE. These issues were implementation of CBTE in the university setting, development of a viable preservice and inservice program and the identification of alternative funding sources for competency-based teacher education.

A study completed in 1976 (Blank) identified over 100 professional competencies important to community college technical instructors in engineering, health, distributive, business, and public service technologies in Florida.

EXEMPLARY COMPETENCY-BASED VOCATIONAL TEACHER EDUCATION PROJECT AT FLORIDA STATE UNIVERSITY

Florida State University as well as other universities in Florida and throughout the nation currently prepare teachers and related professionals using the traditional course-oriented approach. These traditional teacher education programs usually vary in content relevance and overall program quality. The FSU Competency-Based Vocational Teacher Education Project was initiated because of feelings by many vocational educators that traditional university courses might not be meeting the real needs of vocational teachers and related professionals.

The Exemplary Competency-Based Vocational Teacher Education Project at Florida State University is aimed at developing and implementing a totally competency-based professional vocational education program. Called Project ACTIVE (Attaining Competence for Teaching In Vocational Education), the project's intention is to overcome many of the shortcomings of the traditional course-oriented approach to preparing professionally competent vocational and technical teachers and related personnel. This is an exemplary project and could serve as a research base for developing a CBTE model for other Florida universities and also other states.

This report is one of a series and it focuses on one component of the project. Other reports have been prepared describing the other teaching, leadership and special needs components within the project. This series of reports covers the initial phase of the project: *Competency and Criteria Identification*. Listed below is the report number for each component.

Goals and Objectives

The long-range goal of the project is to develop an exemplary competency-based vocational teacher education and leadership development program. The project is aimed at meeting the professional needs of the following groups, both at the preservice and inservice levels:

Report No.

TEACHING COMPONENTS

1. Cooperative Vocational Education
2. Industrial Arts
3. Trade and Industrial
4. Vocational Business Education

LEADERSHIP COMPONENTS

5. Administrators/Supervisors
6. Career Education Specialists
7. Researchers

SPECIAL NEEDS COMPONENTS

8. Disadvantaged
9. Handicapped

The research effort was designed to accomplish the following objectives:

**1. Identification and validation of professional competencies (skills) important to vocational teachers and professional support personnel.

**2. Identification and validation of specific assessment criteria for assessing mastery of competencies.

3. Development and/or adoption of performance-based, self-paced learning packages designed to help participants master important competencies.

4. Development of evaluation instruments and strategies providing for objective assessment of competency mastery while the participant is performing in an actual school situation.

5. Implementation of a competency-based program in a traditional university setting.

6. Development of instruments and strategies for overall program evaluation.

**The first two objectives have been accomplished and they are the focus of this series of reports.

Conceptual Model

The first step in the exemplary project was to develop the conceptual framework of the CBTE program. After reviewing various conceptual models of CBTE programs (Elam, 1971; Houston and Howsam, 1972; Norton et al, 1975) the project staff developed a model which would be suitable for vocational-technical teacher education (Andreyka and Blank, 1976). Figure 1 shows a schematic of this model while Figure 2 explains each element of the model in more detail.

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Figure 1

CBTE CONCEPTUAL MODEL

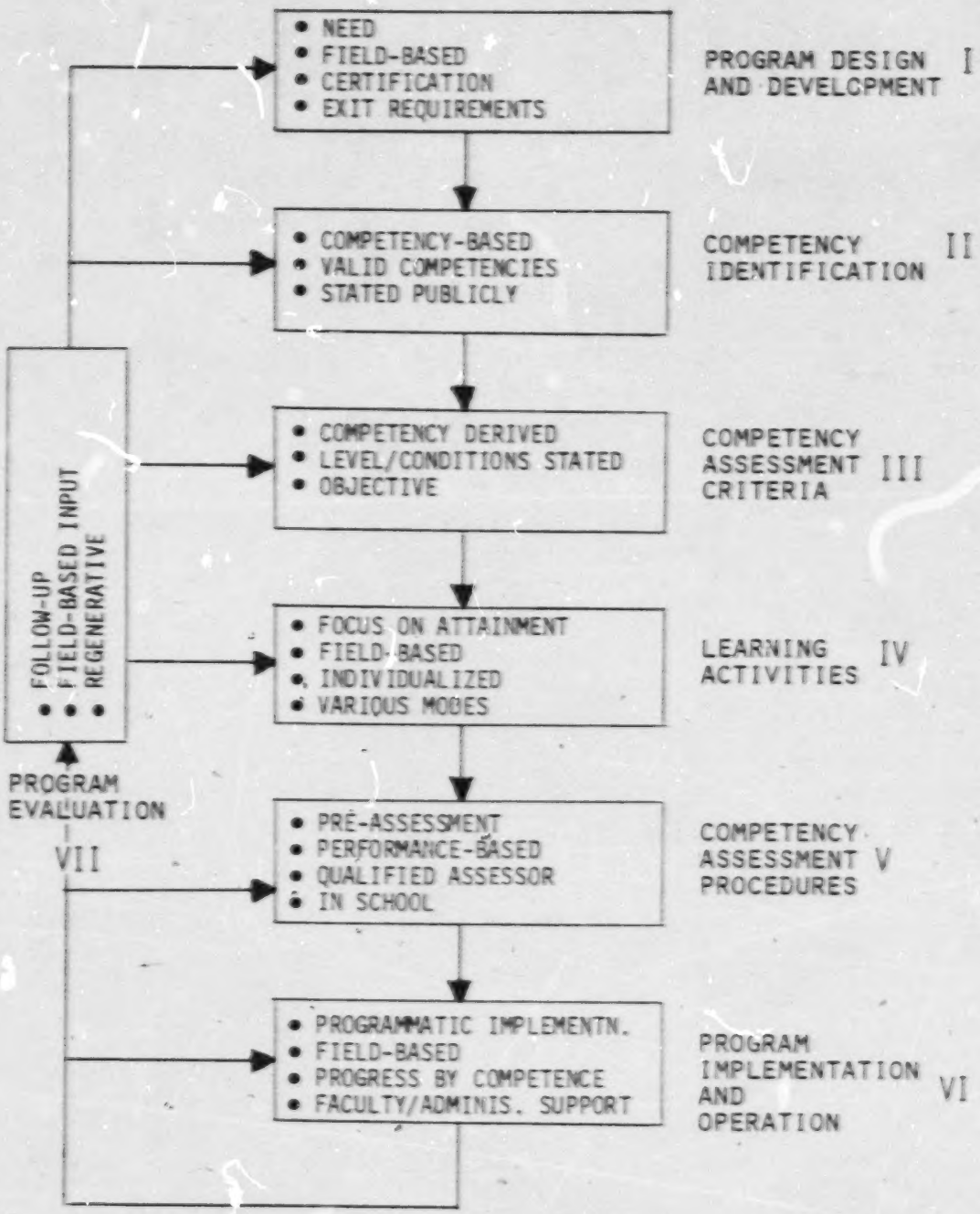


Figure 2

Elements of CBTE Conceptual Model

I. Program Design and Development

A. *Need Identification.* A thorough statement should be provided on the need for the program, including its advantages over the present program and benefits to prospective teachers and their potential students.

B. *Field Based Design Effort.* Evidence should be available that input was received from teachers, state department personnel, parents, students, principals, advisory committees and professional organizations during program design.

C. *Certification.* Program should produce certifiable individuals; certification personnel should be consulted to allow for certification by mastery of competencies rather than by course completion.

D. *Emphasis on Exit Requirements.* The program should place primary emphasis on recording mastery of competencies and eliminating non-relevant entrance requirements.

II. Competency Identification

A. *Basis for Program.* The program should be based solely on appropriate prespecified competencies that have been identified as being important to teachers.

B. *Valid Competencies.* Competencies should be validated by consensus of opinion of qualified experts, or sound research base such as task analysis, teacher poll, literature search or other.

C. *Statement of Competencies.* Teacher trainees should be able to demonstrate, whenever possible, the mastery of competencies as they are stated, and competencies should be made public in advance.

III. Competency Assessment Criteria

A. *Derived from Competencies.* Criteria for assessing competency mastery should be based solely on the competencies themselves.

B. *Expected Level of Performance and Conditions.* The

expected level of performance for successful mastery and under what conditions should be stated and made public in advance.

C. *Objective Assessment Criteria.* Assessment criteria should be specific and objective and based on observable performance by teacher trainees.

IV. Learning Activities

A. *Focused on Competency Attainment.* Learning activities should be focused solely on helping teacher trainees master pre-specified competencies.

B. *Field Based.* Learning activities should be based on actual teaching conditions wherever practical.

C. *Different Modes Available.* Various modes of instruction should be utilized including mediated instruction.

D. *Individualized Instruction.* Self-instructional and self-paced instruction should be available where practical.

V. Competency Assessment Procedures

A. *Pre-Assessment.* Opportunities should be available for pre-assessment for diagnostic purposes and to permit credit for competencies already mastered.

B. *Based on Performance.* Competency mastery should be based primarily on teacher-trainees performance and/or desired change in behavior of students.

C. *Setting.* Assessment should be carried out in an actual school setting whenever practical.

D. *Qualified Assessor.* Assessment should be carried out by one or more qualified resource persons who have teaching experience.

VI. Program Implementation and Operation

A. *Programmatic Implementation.* Total program should be competency based rather than course by course substitution.

B. *Faculty/Administrative Support.* Program should have necessary faculty and administrative support to function on a competency based format.

C. *Field Based.* Program implementation should involve teachers, state department, parents, principals, professional organizations, students and others.

D. *Progress by Competence.* Teacher trainees should proceed through program based on competency mastery rather than by course or time frame.

VII. Program Evaluation

A. *Follow-up.* Follow-up procedures should be established to determine if graduates are as effective as graduates from other programs.

B. *Field Based.* Program evaluation should receive input from various sources in the schools.

C. *Used for Program Improvement.* Program evaluation data should be used directly to improve the program.

Competency and Criteria Identification Phase

This series of reports covers the initial phase of the project which identified professional competencies important to practitioners in each component of the project. Also identified were specific assessment criteria that may be used to assess mastery of the competencies. Subsequent phases of the project will be based upon these professional competencies identified and validated as important to vocational teachers, administrators and related support personnel throughout Florida. Professional competencies important to practitioners within each area of the project were identified, along with assessment criteria, by surveying vocational educators in the field.

Preliminary lists of competencies were identified in each component within the three major areas of the project--teaching, leadership and special needs. Each preliminary competency list was submitted to a jury consisting of persons with expertise in the appropriate area, for preliminary validation. Jury members had broad latitude to revise, add, or delete competency statements.

Based on comments of jury members, the competency statements were revised, compiled on a survey instrument, and submitted to a sample of practitioners in the field for each component of the project with the assumption that teachers and other professionals were qualified to identify competencies most important to them.

These survey instruments were mailed to vocational and technical teachers, administrators, supervisors, researchers, career education specialists and cooperative vocational education teacher-coordinators. These individuals rated each competency as to its importance to them in their positions. Data from returned instruments were analyzed to identify significant differences among sub-groups within each component.

For each competency validated as important, specific, objective assessment criteria were written that may be used by an evaluator to assess whether individuals have mastered the competency. Preliminary criteria statements were written for each competency, submitted to a jury comprised of individuals with expertise and experience in that particular area, and revised based upon a synthesis of jurors' comments.

Later phases of the project will include the adoption and development of learning materials, development of assessment strategies and instruments, implementation in the university setting, and development of program evaluation techniques. This report describes the competency and assessment criteria identification phase for one component within the project. Additional reports have been prepared describing the competency and criteria identification phase of the other teaching, leadership and special needs components.

PART I

RESEARCH AND EVALUATION COMPONENT—
Competency Identification

CHAPTER 1

INTRODUCTION - COMPETENCY IDENTIFICATION PHASE

Research and evaluation efforts enable vocational education to address itself to new and emerging problems, plus determining the effectiveness of its present efforts. Research and evaluation is one of the leadership areas included in the Competency-Based Teacher Education project. State education departments, universities, school districts and institutions need individuals with expertise in various phases of research and evaluation. These individuals often have received little preparation in important competencies needed on the job. A need exists for identifying professional competencies most important to persons involved in vocational education research and evaluation.

Need for the Study

The need for a study identifying research and evaluation competencies for vocational educators was outlined by Hull, et al, (1969) who said in a functional definition of research:

> The research process can assist in (1) setting objectives, (2) developing procedures to reach those objectives, and (3) thoroughly testing products such as curriculum materials before they are disseminated for use in educational systems. . . . The objective or goal of this function is to facilitate change and improvement in vocational-technical education. Obviously, there is a need for continuing change and improvement. (p. 10)

When the professional research and evaluation competencies that are important to vocational educators are identified, it will be possible to develop preservice and inservice training programs to equip individuals with essential skills. Identification of these important competencies may also lead to the development of evaluation procedures for those professionals employed in research and research related capacities in universities, state departments and RCU settings.

Purposes of the Study

The purpose of this portion of the project was to identify research and evaluation competencies important to vocational teachers, teacher educators, Department of Education personnel, and vocational administrators and supervisors. When the important research and evaluation competencies were identified, specific, objective assessment criteria were then identified that may be used to evaluate mastery of these competencies.

CHAPTER 2

REVIEW OF RELATED RESEARCH

In 1969, the American Educational Research Association (AERA) established a task force on educational research personnel training. The task force's major activity was identifying training needs for educational research (including development and evaluation) and considering alternate methods for satisfying such needs. It was reported that the AERA does, indeed, have a moral responsibility for improving the skills of educational researchers.

Larson and Valentine (1975) discussed the role of post-secondary vocational education research, saying:

> Millions of dollars are wasted each year because of unanswered, poorly answered and incorrectly answered questions. . . . Many unanswered questions continue to interfere with effective and efficient education at all levels, including vocational education. Research can be an important mechanism in dealing with this dilemma. . . . Research should be a vital part of the planning and decision-making process. Poor decisions are made because adequate information was unavailable or the decision-maker did not analyze available data and information.

Calhoun (1971) said that dissemination of research findings must be improved and research must be interpreted to those who can put it into practice.

Popham (1974), in reference to the American Educational Research Association and its activities, discussed the problem of preventing professional obsolescence of researchers.

> Professionals put a premium on keeping up-to-date. In some fields, the perils of professional obsolescence are quite apparent. . . . Faulty conclusions derived from badly conducted educational research, for example, may seriously damage the lives of generations.

Major issues of vocational education were listed by George Copa (1974). One of these issues dealt with the need for research.

> If vocational education is to provide information for accountability, its evaluation methodologies must be improved. Fair control groups must be identified and statistical procedures . . . must be used in their absence.

Larson and Valentine (1975) identified several areas of competence needed by those involved in vocational research at the post-secondary level. Major areas included use of appropriate research methodology (descriptive, analytical, experimental), statistical treatment of data such as chi square, analysis of variance, correlation-regression and others.

CHAPTER 3

METHODOLOGY FOR IDENTIFYING COMPETENCIES

The methodology utilized for the study was a descriptive survey using a questionnaire distributed by mail to vocational education teachers, teacher educators, administrators, and researchers.

Selection of the Subjects

The population for the study consisted of Florida vocational teacher educators, Florida county vocational directors, Florida vocational administrators/supervisors/coordinators, Florida teacher-educators, and vocational research and evaluation personnel throughout the nation.

The sample selected for the study included a total of 214 persons. The breakdown of the categories of persons included in the sample is shown in Table 1.

Table 1

Sample Included In Study

Group	N
Teacher Educators	21
County Vocational Directors	20
Vocational Administrators/ Supervisors/Coordinators	72
Vocational Teachers	88
National Research Personnel	13
Total	214

The teacher educators were selected randomly using a random number table. The county vocational directors were selected from a distribution representing approximately one-third small, one-third medium, and one-third large counties in Florida. Geographic location was not a factor considered in this selection process.

The vocational administrators, supervisors, and coordinators were selected by their respective county vocational directors. County directors included in the study were sent two additional instruments for distribution to administrators and supervisors in their counties.

Service areas represented by the vocational teachers in the study included: agriculture, business, distributive, health, home economics, technical (public service) and industrial education. Among these are several teachers in cooperative education programs. In addition, these teachers represent instruction at the high school, area vocational-technical center, and junior college levels. All the vocational teachers were nominated on the basis of their involvement in research and evaluation by their service area program administrators in the Division of Vocational Education, Florida Department of Education.

The 13 individuals included in the study involved in research and evaluation activities across the country were nominated by Dr. Hollie Thomas, Vocational Education Program, Florida State University. Dr. Thomas nominated them as being reputable research persons in their respective fields, i.e., business, agriculture, home economics.

Development of the Instrument

The primary source of a preliminary list of competency statements for the research and evaluation instrument was a list of skills drafted by the American Education Research Association Task Force on Research Training (Worthen, 1975). These skills were thought to be necessary for conducting research and evaluation in education. In 1969, Worthen and Gagné drafted a list of skills they thought were necessary for conducting research and evaluation in education. These were "reality tested" through interviews with 60 employees and supervisors of research and evaluation personnel.

In 1970, Glass and Worthen reviewed and supplemented the earlier list after finding many competencies frequently required for educational inquiry had been omitted from the original training needs list developed in 1969. In 1971,

a task analysis of research and evaluation activities was conducted in 13 agencies. Some 109 research and evaluation workers in those agencies were studied to determine what tasks they were called upon to perform in their work and what competencies were required to perform them.

Factor analysis of the results yielded several clusters of common research and evaluation tasks and competencies. This revised list served as a basis for the questionnaire used in this study. Items were added and others altered to more specifically relate to vocational education. Items were then grouped into the following categories: (1) ability to review and analyze completed research, (2) ability to conduct research, (3) evaluation, and (4) management.

Validation by Jury

The original list of AERA statements was revised by the research and evaluation team and submitted to a three-member jury for preliminary validation. The jury members were:

1. Dr. Ken Eaddy, Bureau of Research, Evaluation and Dissemination, Division of Vocational Education, Florida Department of Education

2. Dr. C. Virginia Bert, Bureau of Research, Evaluation and Dissemination, Division of Vocational Education, Florida Department of Education

3. Dr. Roy Giehls, Bureau of Research, Evaluation and Dissemination, Division of Vocational Education, Florida Department of Education.

Revision of the Instrument

The recommendations of the jury were synthesized and a final list of competency items was compiled according to group-related competency categories, but no category headings were included in the instrument. The final version of the instrument (see Appendix A) contained 56 competency statements, instructions, a section with items about the professional background of the respondents, and several blank spaces in which respondents could add competencies they felt were important. Respondents rated each item on a six-point scale (1=very important to 6=not important) according to importance to them in performing their duties.

Collection and Analysis of the Data

A separate but similar cover letter was developed for each of the five groups included in the survey (Appendixes B - D). A packet was prepared which included the cover letter, a survey instrument, and a business reply envelope for returning the instrument. These packets were mailed to persons in the sample on Friday, November 14, 1975.

A follow-up mailing (see Appendix E) was sent out on December 5, 1975, to 105 persons after an initial return response of 51 percent.

Data from returned instruments were transferred to punched cards and analyzed by computer. The following analysis of data was performed:

1. A one-way analysis of variance was utilized to determine whether significant differences existed in the mean importance ratings of competencies among the five groups.

2. The Newman-Keuls test was utilized to identify the source of significant differences in the mean importance ratings of competencies among the five groups.

CHAPTER 4

FINDINGS AND DISCUSSION - COMPETENCIES

This section presents the findings of the study based on an analysis of data from returned instruments.

Return Rates

Table 2 shows the percentage returns of each group included in the survey. The returns of the vocational administrators, supervisors and coordinators at the county level were broken into two groups: (1) principals, and (2) vocational administrators, supervisors and coordinators.

Table 2

Questionnaire Returns

Group	Distributed	Returned	%
Vocational Teachers	88	60	68
Vocational Administrators/ Supervisors/Coordinators	72	42	58
County Vocational Directors	20	18	90
Vocational Teacher Educators	21	14	67
National RCU Research Personnel	13	10	77
Total	214	144	67

Professional Data

Included on the instrument were items seeking information about the background and present professional status of respondents. This data may be useful in providing information about vocational educators involved in research and evaluation activities.

Table 3 shows the age distribution of respondents. Respondents' ages appear to be somewhat normally distributed among the five age cells.

Table 3

Age of Respondents By Group (%)

Age	Groups: Vocational Teachers N=60	Vocational Administrators Supervisors Coordinators N=42	County Vocational Directors N=18	Teacher Educators N=14	National Research Personnel N=10	All Groups N=144
21-30	19	12	0	0	0	11
31-40	23	26	11	15	20	21
41-50	26	43	39	31	50	35
51-60	23	19	28	39	20	24
over 60	9	0	22	15	10	9

Table 4 displays the distribution of respondents by sex. It appears as if there were more males involved in vocational education research and evaluation activities in Florida than there were females.

Table 4

Sex of Respondents By Group (%)

Sex	Groups: Vocational Teachers N=60	Vocational Administrators Supervisors Coordinators N=42	County Vocational Directors N=18	Teacher Educators N=14	National Research Personnel N=10	All Groups N=144
Female	41	26	22	43	10	33
Male	59	74	78	57	90	67

Table 5 shows the number of years in present position for each group of respondents. A majority of the persons responding had been in their present position for less than 10 years. More than 60 percent had been in their present positions for less than five years.

Table 5

Number of Years in Present Position (%)

Years	Groups: Vocational Teachers N=60	Vocational Administrators Supervisors Coordinators N=42	County Vocational Directors N=18	Teacher Educators N=14	National Research Personnel N=10	All Groups N=144
1-5	55	79	67	50	50	63
6-10	26	17	11	14	30	21
11-15	12	0	11	29	10	10
16-25	5	4	6	0	10	5
over 25	2	0	6	7	0	2

Table 6 indicates the breadth of work experience of the respondents outside the field of education. More than 60 percent of the respondents had from one to ten years of work experience. A majority had less than five years' work experience outside education.

Table 6

Number of Years Work Experience Outside Field of Education By Group (%)

Years	Groups: Vocational Teachers N=60	Vocational Administrators Supervisors Coordinators N=42	County Vocational Directors N=18	Teacher Educators N=14	National Research Personnel N=10	All Groups N=144
unknown	9	12	11	7	10	10
1-5	40	55	33	36	50	43
6-10	16	19	44	21	40	23
11-15	10	5	0	7	0	6
16-25	26	9	11	29	0	18

Table 7 presents the range of the highest degree held for the six groups of respondents. The most frequently held degree held by all the respondents in the survey was the masters degree. Some 45 percent held the masters as their highest degree.

Table 7

Highest Degree Held (%)

Highest Degree	Groups: Vocational Teachers N=60	Vocational Administrators Supervisors Coordinators N=42	County Vocational Directors N=18	Teacher Educators N=14	National Research Personnel N=10	All Groups N=144
High School	11	0	0	0	0	4
Associate	5	0	0	0	0	2
Bachelor's	23	8	11	0	0	14
Master's	37	69	67	14	10	45
A.M.E./Spec.	14	14	22	21	10	16
Doctorate	11	9	0	64	80	19

Table 8 shows the distribution of the groups according to the number of years they had worked in vocational education.

Table 8

Number of Years in Vocational Education (%)

Years	Groups: Vocational Teachers N=60	Vocational Administrators Supervisors Coordinators N=42	County Vocational Directors N=18	Teacher Educators N=14	National Research Personnel N=10	All Groups N=144
unknown	2	4	0	7	0	3
1-5	39	9	0	0	0	18
6-10	26	19	22	21	10	22
11-15	12	37	22	21	10	22
16-25	14	19	33	21	40	21
over 25	7	12	22	29	40	14

Importance of Competencies

Table 9 shows the mean importance rating of each competency statement on the survey instrument for each group of vocational educators. Also shown in Table 9 is the average rank of each item within each group and the average mean and average rank for all groups. The average mean resulted from computing the simple average of the means for all five groups. The average mean was utilized, rather than the mean for all respondents, because of the unequal numbers of respondents in each group. The numbers in parentheses appearing below the rank and mean within each group denote significant pairs identified by the Newman-Kuels test. For example, item 9 on Table 9 was rated significantly different by teacher-educators (6) and vocational teachers (1), and also by teacher-educators (6) and vocational administrators, supervisors, and coordinators (4). Of the 56 competency statements on the instrument, 33 received significantly different mean importance ratings among groups of vocational educators involved in research work at the .05 level or better. The reader should note that 20 of the 56 competency statements on the instrument were rated significantly different at the .001 level.

Table 9

Importance Ratings of Competencies by Research and Evaluation Personnel

Rank / Avg.Mean	Item	Competency	Rank/Mean/(Sig. Pairs) Voc. Teachers (1) N=60	Voc.Adm., Supvisors Coordntrs (4) N=42	County Voc. Dir. (5) N=18	Teacher Educ. (6) N=14	Nat'l RCU's Rschs. (7) N=10	F Ratio
1 / 1.8517	45	State objectives in measurable terms.	2.0 / 1.867	6.5 / 1.903	16.0 / 1.889	10.5 / 1.500	24.5 / 2.100	.534
2 / 1.8804	43	Assess the value and feasibility of program goals.	3.0 / 1.949	4.5 / 1.871	6.0 / 1.611	37.5 / 2.071	15.5 / 1.900	.483
3 / 1.9127	40	Utilize evaluation results to plan changes in vocational programs.	6.5 / 1.983	1.0 / 1.677	1.5 / 1.389	43.5 / 2.214	33.5 / 2.300	2.011
4 / 1.9332	30	Interpret and draw appropriate conclusions from data analysis.	26.0 / 2.712 (7,6,5)	16.5 / 2.200	12.5 / 1.883 (1)	15.0 / 1.571 (1)	2.0 / 1.300 (1)	4.155**
5 / 1.9350	31	Select an evaluation design appropriate for programs of vocational education.	18.0 / 2.600	10.5 / 2.000	16.0 / 1.889	27.5 / 1.786	4.5 / 1.400	3.181
6 / 1.9426	7	Draw accurate conclusions or inferences from research reports.	16.0 / 2.559	10.5 / 2.000	25.5 / 2.167	10.5 / 1.500	7.5 / 1.500	3.069
7 / 1.9460	10	Clearly state the problem and rationale for research or evaluation.	24.5 / 2.750 (6,7)	18.0 / 2.226	23.5 / 2.111	2.5 / 1.143 (1)	7.5 / 1.500 (1)	5.188***
8 / 1.9684	29	Translate data analyses into recommendations for action.	29.0 / 2.883 (7,6,5)	14.0 / 2.129	16.0 / 1.889 (1)	17.5 / 1.643 (1)	2.0 / 1.300 (1)	5.189***
9 / 1.9698	11	Correctly state hypotheses or clearly state questions to be answered from research.	24.5 / 2.750 (6)	20.5 / 2.323	28.5 / 2.333	2.5 / 1.143 (1)	2.0 / 1.300	6.178***
10 / 2.0269	4	Gather information from colleagues and other informal sources.	4.0 / 1.967	16.5 / 2.200	18.5 / 1.944	33.0 / 1.924	24.5 / 2.100	.333
11 / 2.0405	46	Identify standards or norms for judging the worth of vocational programs.	10.0 / 2.166	8.5 / 1.968	6.0 / 1.611	31.0 / 1.857	45.0 / 2.600	1.765
12 / 2.0436	44	Determine discrepancies between actual and intended program outcomes.	9.0 / 2.100	13.0 / 2.097	9.5 / 1.778	41.0 / 2.143	24.5 / 2.100	.355
13 / 2.0717	42	Identify intended and unintended outcomes of vocational programs.	6.5 / 1.983	4.5 / 1.871	12.5 / 1.833	37.5 / 2.071	45.0 / 2.600	.904
14 / 2.0734	9	Identify and clearly state a researchable topic.	34.0 / 3.000 (6)	31.0 / 2.613 (6)	23.5 / 2.111	2.5 / 1.143 (1,4)	7.5 / 1.500	6.934***

* Significant at .05 level
** Significant at .01 level
*** Significant at .001 level

Table 9 (continued)

Rank / Avg. Mean	Item	Competency	Rank/Mean/(Sig. Pairs) Voc. Teachers (1) N=60	Voc. Adm., Supvisors Coordntrs (4) N=42	County Voc. Dir. (5) N=18	Teacher Educ. (6) N=14	Nat'l RCU's Rschs (7) N=10	F Ratio
15 2.0812	33	Conduct student follow-up studies.	8.0 2.017	12.0 2.065	6.0 1.611	43.5 2.214	40.5 2.500	.992
16 2.0998	28	Report findings of research or evaluation (written and oral) in appropriate style and form for intended audience.	31.0 2.933 (7,6,5)	26.5 2.452	20.0 2.000 (1)	22.5 1.714 (1)	4.5 1.400 (1)	4.782***
17 2.1568	47	Identify potential sources for submitting proposals.	19.5 2.650	30.0 2.548	21.5 2.000	27.5 1.786	13.5 1.800	2.519
18 2.1649	14	Identify the population for a research study.	33.0 2.967 (6)	22.5 2.355	31.0 2.389	5.5 1.214 (1)	15.5 1.900	5.497***
19 2.1660	32	Implement an evaluation design for vocational education programs.	15.0 2.533	2.5 1.871	12.5 1.883	41.0 2.143	38.0 2.400	1.914
20 2.1757	48	Write proposals including estimates of time, human and financial resources required.	27.0 2.783 (6)	26.5 2.452	21.5 2.000	17.5 1.643 (1)	20.0 2.000	3.176*
21 2.1850	15	Select and use appropriate sampling technique(s).	32.0 2.949 (6,7)	24.5 2.419	33.5 2.500	8.0 1.357 (1)	11.0 1.700 (1)	5.074***
22 2.1934	34	Conduct employer follow-up studies.	5.0 1.950	15.0 2.161	3.5 1.556	49.5 2.500	50.0 2.800	2.393
23 2.2166	41	Evaluate learner performance in vocational subjects.	1.0 1.750 (7)	8.5 1.968 (7)	7.0 1.722 (7)	41.0 2.143 (7)	56.0 3.500 (5,1,4,6)	5.118***
24 2.6668	39	Prepare written evaluation reports of vocational programs.	21.0 2.661	6.5 1.903	3.5 1.556	53.5 2.714	40.5 2.500	3.684
25 2.3345	37	Evaluate vocational education instructors.	11.0 2.267 (7)	2.5 1.871 (7)	9.5 1.778 (7)	47.0 2.357	55.0 3.400 (1,4,5)	2.830*
26 2.3326	12	State appropriate assumptions, limitations, and definitions for a research or evaluation project.	37.0 3.100 (6)	28.5 2.516 (6)	44.0 2.833 (6)	5.5 1.214 (1,4,5)	20.0 2.000	7.732***
27 2.3476	8	Determine the type of research (descriptive, correlation, experimental, etc.) that should be utilized.	43.0 3.288 (6,7)	46.5 3.079 (6,7)	30.0 2.353	10.5 1.500 (4,1)	7.5 1.500 (4,1)	8.366***
28 2.3290	27	Read and interpret computer printouts.	44.5 3.300 (6,5)	22.5 2.355	12.5 1.833 (1)	31.0 1.857 (1)	33.5 2.300	6.410***

Table 9 (continued)

Rank / Avg. Mean	Item	Competency	Rank/Mean/(Sig. Pairs) Voc. Teachers (1) N=60	Voc.Adm., Supvisors Coordntrs (4) N=42	County Voc. Dir. (5) N=18	Teacher Educ. (6) N=14	Nat'l RCU's Rschs (7) N=10	F Ratio
29 / 2.3548	6	Synthesize the results of research studies.	23.0 / 3.083 (4,6,7)	32.0 / 2.677 (1)	47.5 / 2.944	27.5 / 1.786 (1)	11.0 / 1.700 (1)	5.340***
30 / 2.3649	3	Use library resources (Index, Reader's Guide, card catalog, CIJE, etc.)	14.0 / 2.457 (6)	43.0 / 2.968 (6)	51.5 / 3.056 (6)	2.5 / 1.143 (1,4.5,7)	28.5 / 2.200 (6)	6.279***
31 / 2.4144	49	Utilize management and planning systems such as PERT.	36.0 / 3.034 (6)	40.0 / 2.871	25.5 / 2.167	35.0 / 2.000 (1)	20.0 / 2.000	3.867**
32 / 2.4145	36	Participate as a member of an evaluation consulting team.	12.0 / 2.367	24.5 / 2.419	32.0 / 2.444	52.0 / 2.643	28.5 / 2.200	.207
33 / 2.4152	17	Establish instrument reliability and validity.	39.0 / 3.133 (6)	28.5 / 2.516	35.0 / 2.556	13.5 / 1.571 (1)	33.5 / 2.300	3.485**
34 / 2.4384	53	Implement a management plan that will get a research project started in an efficient manner.	35.0 / 3.033	46.5 / 3.097	28.5 / 2.333	34.0 / 1.929	13.5 / 1.800	3.644
35 / 2.4415	35	Utilize a consulting team in evaluating vocational programs.	13.0 / 2.382	20.5 / 2.323	18.5 / 1.944	55.0 / 2.857	49.0 / 2.700	1.067
36 / 2.4452	54	Terminate a research project including appropriate fiscal management and the delivery of required reports.	42.0 / 3.250 (6)	39.0 / 2.833	33.5 / 2.500	17.5 / 1.643 (1)	20.0 / 2.000	4.593**
37 / 2.4466	1	Locate journals that publish research reports in your field.	22.0 / 2.667 (6)	33.5 / 2.710 (6)	51.5 / 3.056 (6)	10.5 / 1.500 (1.4.5)	33.5 / 2.300	3.340**
38 / 2.4625	22	Review and select appropriate standardized tests or instruments.	17.0 / 2.567	35.0 / 2.710	38.0 / 2.722	22.5 / 1.786	45.0 / 2.600	1.470
39 / 2.4831	13	Select, fully describe and carry out appropriate research design to answer research questions or test hypotheses.	50.5 / 3.467 (6)	36.5 / 2.774 (6)	45.4 / 2.889 (6)	7.0 / 1.286 (1,4,5)	20.0 / 2.000	8.072***
40 / 2.4933	38	Conduct cost, cost benefit, and cost effectiveness analyses of vocational programs.	28.0 / 2.816 (5)	19.0 / 2.290 (5)	1.5 / 1.389 (1,4,6,7)	56.0 / 3.071 (5)	51.5 / 2.900 (5)	4.882***
41 / 2.4967	5	Identify, abstract, review and evaluate research reports and articles reporting research in your field.	30.0 / 2.898 (6)	33.5 / 2.710	45.4 / 2.889	27.5 / 1.786 (1)	28.5 / 2.200	2.390

34

Table 9 (continued)

Rank Avg.Mean	Item	Competency	Rank/Mean/(Sig. Pairs) Voc. Teachers (1) N=60	Voc.Adm., Supvisors Coordntrs (4) N=42	County Voc. Dir. (5) N=18	Teacher Educ. (6) N=14	Nat'l RCU's Rschs (7) N=10	F Ratio
42 2.5983	16	Recognize and/or control threats to internal and/or external validity of experimental and quasi-experimental studies.	49.0 3.416 (6)	49.5 3.226 (6)	41.0 2.778 (6)	13.5 1.571 (1,4,5)	20.0 2.000	6.516***
43 2.6198	21	Construct and use instruments and techniques to assess cognitive skills.	19.5 2.650	45.0 3.000	41.0 2.778	37.5 2.071	45.0 2.600	1.428
44 2.6509	51	Conduct research that involves human subjects in an ethical fashion.	38.0 2.117	36.5 2.774	41.0 2.778	45.4 2.286	33.5 2.300	1.384
45.5 2.6563	23	Select and use appropriate method for statistical analysis of data.	56.0 4.347 (7,6)	41.0 2.903	37.0 2.611	22.5 1.714 (1)	11.0 1.700 (1)	5.933***
45.5 2.6563	50	Monitor programs to detect deviations from design or procedures.	41.0 3.183	38.0 2.806	27.0 2.278	53.5 2.714	33.5 2.300	1.953
47 2.7630	56	Construct and use instruments and techniques to assess psychomotor skills.	40.0 3.150 (6)	48.0 3.129 (6)	53.5 3.222 (6)	22.5 1.714 (4,1,5)	45.0 2.600	3.368*
48 2.7787	18	Control extraneous variables in experimental research.	50.5 3.467 (6)	49.5 3.266 (6)	47.5 2.944	31.0 1.857 (4,1)	38.0 2.400	4.346**
49 2.7790	20	Construct appropriate instrument for measuring variables.	48.0 3.389 (6)	52.0 3.290	49.0 2.944	37.5 2.071 (1)	28.5 2.200	3.352**
50 2.7800	2	Use the ERIC system.	47.0 3.388 (6)	51.0 3.233 (6)	55.0 3.235 (6)	17.5 1.643 (1,4,5)	38.0 2.400	6.245***
51 2.8017	24	Use computer related equipment in data preparation & analyses.	52.0 3.617 (6,5)	42.0 2.935	36.0 2.588 (1)	25.0 1.769 (1)	53.0 3.100	5.384***
52 2.8338	55	Construct and use instruments and techniques to assess affective variables.	44.5 3.300 (6)	53.0 3.355 (6)	53.5 3.222 (6)	20.0 1.692 (1,5,4)	45.0 2.600	4.394**
53 2.8500	52	Conduct research projects that conform to legal restraints (e.g., affirmative action).	46.0 3.383	44.0 2.968	41.0 2.778	51.0 2.571	24.5 2.100	2.517
54 3.0988	25	Prepare data for computerized analyses.	54.0 3.800 (6,5)	54.0 3.387	41.0 2.778 (1)	48.0 2.429 (1)	51.5 2.900	3.843**
55 3.1364	19	Construct and use nominal, ordinal, interval and ratio measurement scales.	55.0 3.850 (6)	56.0 3.613	56.0 3.333	45.5 2.286 (1)	45.0 2.600	5.075***
56 3.1900	26	Select and utilize standardized computer programs.	53.0 3.750 (6)	55.0 3.400	50.0 2.000	49.5 2.500 (1)	54.0 3.300	2.752*

* Significant at .05 level
** Significant at .01 level
*** Significant at .001 level

Table 10 lists those competencies that were rated in the top 25 percent for three of the five groups in the study. There were no statements rated in the most important 25 percent for four of the five groups. Appendix A lists the actual competency statements.

Table 10

Items Rated In Upper 25%
In Three of Five Groups Studied

Item	Groups	Competency Statement
41	1,4,5	Evaluate learner performance in vocational subjects.
45	1,4,5	State objectives in measurable terms.
43	1,4,5	Assess the value and feasibility of program goals.
42	1,4,5	Identify intended and unintended outcomes of vocational programs.
33	1,4,5	Conduct employer follow-up studies.
46	1,4,5	Identify standards or norms for judging the worth of vocational programs.
37	1,4,5	Evaluate vocational education instructors.
7	4,5,7	Draw accurate conclusions or inferences from research reports.

1 = Vocational teachers
4 = Vocational adm/sup/coord
5 = County voc. directors
7 = National research personnel

Open-Ended Responses

In addition to the competency statements on the instrument, there were several blank spaces provided on which respondents added competencies they felt were important. Appendix F lists these open-ended responses added by the various subgroups responding to the survey instrument.

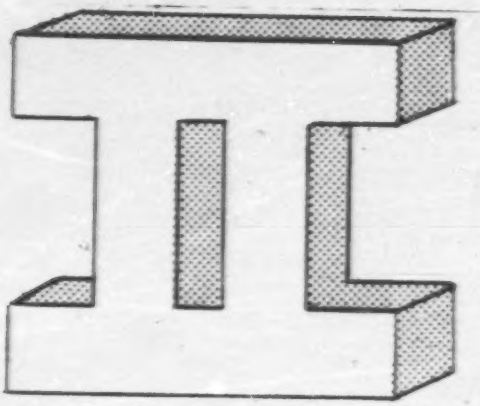
CHAPTER 5

CONCLUSIONS

Based on the analysis of data from the returned instruments, several conclusions may be drawn. It appears that a large number of professional research and evaluation competencies are important to persons involved in the various program areas and levels of vocational-technical education in Florida. All of the competency statements included on the survey instrument had an average importance rating lower (indicating high importance) than the midpoint on the 6 point rating scale. It could then be concluded that all the competencies listed were considered important by those responding to this survey, thus indicating that the preliminary competencies were screened very well by the jury and that the most unimportant items were deleted from the survey instrument prior to the collection of validation data.

A second conclusion that may be drawn is that the competencies considered important collectively by the five subgroups of respondents vary significantly according to the type of position held by the individuals (i.e., significant differences were observed among the means of the subgroups). Of the 56 competencies under consideration, significant differences were observed among the means of the five subgroups for 33 items. Means for 20 of these 33 items were significantly different at the .001 level. It appears as if the groups of vocational educators included in the study require different professional competencies.

PART



RESEARCH AND EVALUATION COMPONENT – Criteria Identification

CHAPTER 6

METHODOLOGY FOR IDENTIFYING CRITERIA

Need

In order to fully implement a competency-based program, a means of assessing competency mastery should be developed. Among the elements of a CBTE program identified by Elam (1971) is the use of assessment criteria which (1) are based upon specified competencies, (2) state expected levels of mastery under specified conditions, and (3) are made public in advance. Assessment criteria may allow objective assessment of competency mastery based primarily on the performance of the trainee.

Dodl and Schalock (1973) stated that the criteria for ". . . assessing what a prospective teacher can do (performance) should be as rigorous, as systematically derived, and as explicitly stated as the criteria for assessing either what he knows (knowledge) or what he can achieve in learners." The authors added that traditional teacher education programs have relied heavily on knowledge criteria but that performance criteria will constitute a major force for innovation in education during the next decade.

Purpose

The purpose of this phase of the project was to develop objective, specific assessment criteria for those competencies that were rated important by Florida's administrators and supervisors, teachers and other research personnel. These criteria may then be used by evaluators to objectively assess whether individuals have mastered these competencies. Such criteria might be useful for preservice assessment of certain competencies in a university-based program or for inservice assessment for staff development, needs assessment, promotion and similar uses.

The project staff developed several parameters for assessment criteria that would be developed. These parameters, it was felt, would help to operationalize the competency-based program by taking much of the subjectivity out of assessment. These parameters for assessment criteria should:

1. Include all key elements of the competency.

2. Be based entirely on the competency itself.

3. Be stated in past tense.

4. Require only a "yes" or "no" response.

5. Be as objective as possible.

Validation By Jury

Competencies receiving an average importance rating for all five groups of researchers, teachers, administrators, supervisors and other vocational education personnel in the study of 3.500 (midpoint) or less on the 6 point rating scale were considered important by the project staff for research personnel in vocational education programs in Florida. The next step in the project was to develop assessment criteria for evaluating mastery of these competencies.

The project staff developed preliminary assessment criteria for the 56 competencies which were considered to be important. Criteria statements were developed using the parameters discussed earlier. A jury was used to review these criteria statements and make revisions, additions, and deletions. A letter (see Appendix G) was sent to potential jury members asking them to serve. Individuals agreeing to review the preliminary criteria statements were sent a follow-up letter (see Appendix H) and a packet of materials explaining the desired criteria statements in more detail (see Appendix I). The following persons served as jury members to review the preliminary assessment criteria for the research and evaluation component:

1. Dr. Roy Giehls, Evaluation Section, Division of Vocational Education, Florida Department of Education

2. Dr. F. Craig Johnson, Department of Evaluation Research and Design, Florida State University

3. Dr. Susan B. Thomas, Department of Evaluation Research and Design, Florida State University.

CHAPTER 7

FINDINGS - CRITERIA

Based on the comments made by jury members, the preliminary assessment criteria were revised. Jury members were encouraged to add, delete or alter criteria statements based on their suitability for objective evaluation of competencies. Table 11 lists the revised criteria statements for the 56 competency statements that received a mean importance rating of 3.500 (midpoint) or less on the 6 point rating scale.

The competency statements in Table 11 have been grouped by the project staff into the following categories:

1. Review and Analysis of Completed Research.
2. Conducting Research.
3. Evaluation.
4. Management.

This categorization is tentative only and is based solely upon the judgment of the project staff. Grouping of competencies for use in a preservice or inservice program can be accomplished based on the unique needs of participants and the objectives of the particular program.

It is recommended that the assessment criteria listed in Table 11 be reviewed and revised where necessary to fit the unique needs of particular preservice or inservice programs designed to prepare or upgrade persons involved in conducting, evaluating, disseminating, or applying research and evaluation in vocational education.

Table 11

Assessment Criteria for Competencies

Category A: Review and Analysis of Completed Research

1. Locate journals that publish research reports in your field.

   a. Appropriate journals were identified.
   b. Indexes to journals were utilized.
   c. Appropriate issue(s) of journal was located.

2. Use the ERIC system.

   a. The location of the ERIC materials in the library was determined.
   b. From notations in the ARM and AIM volumes the availability of the microfiche in the library was determined.
   c. For future references, descriptive terms used as locators of future articles were recorded.
   d. Information for future reference and biographical data was recorded.

3. Use library resources (Index, Reader's Guide, card catalog, CIJE, etc.).

   a. The field of study was identified.
   b. The available journals related to the field of study were located.
   c. Journal articles related to the topic were located.
   d. Dissertation abstracts in the field of study and topic were located.
   e. Major professional yearbooks were reviewed, i.e., AERA Reviews, AVA Yearbooks.
   f. Books, government documents, etc. were located.

4. Gather information from colleagues and other informal sources.

   a. Individuals with expertise in the area of interest were identified, interviewed or contacted, and information was obtained.
   b. The types of locations for gathering information on an informal basis were identified, and techniques for gathering information were outlined.

5. Identify, abstract, review and evaluate research reports and articles reporting research in your field.

   a. Appropriate research reports and articles were located.
   b. Articles and reports were read and reviewed.
   c. Important findings were abstracted.
   d. Articles and reports were evaluated based on specified criteria.

6. Synthesize the results of research studies.

   a. Related research articles were grouped appropriately.
   b. The results were utilized in synthesizing completed research.
   c. The results of research are synthesized in a complete, concise manner and presented in an organized, coherent fashion.

7. Draw accurate conclusions or inferences from research reports.

   a. Research literature was read and understood.
   b. Research literature was evaluated based on established criteria.
   c. Results of literature were accurately summarized.
   d. Accurate conclusions were drawn.

Category B: Conducting Research

8. Determine the type of research (descriptive, correlation, experimental, etc.) that should be utilized.

   a. The purpose(s) and objective(s) of the research were identified.
   b. The four basic types of research were examined.
   c. The appropriate type of research was selected, and reasons were given for its selection.

9. Identify and clearly state a researchable topic.

   a. A research topic was identified.
   b. The research topic was clearly stated.

10. Clearly state the problem and rationale for research or evaluation.

   a. The problem was described in terms of specific objectives.
   b. The rationale was clearly stated.

Table 11 (continued)

Category B: Conducting Research (continued)

11. Correctly state hypotheses or clearly state questions to be answered from research.

    a. A hypothesis was formulated to address each of the research questions, where appropriate.
    b. The questions were stated clearly and unambiguously in the form of declarative sentences.
    c. The research question(s) or hypotheses were based on a relationship between two or more variables.
    d. The hypothesis was testable, that is, it was possible to restate it in an operational form which was then evaluated based on data.

12. State appropriate assumptions, limitations and definitions for a research or evaluation project.

    a. An appropriate assumption for the research project was stated and based on the research topic identified.
    b. The limitations for the research project were stated and based on the research topic identified.
    c. Definitions relating to the research project were stated and based on the research topic identified.

13. Select, fully describe and carry out appropriate research design to answer research questions or test hypotheses.

    a. The hypotheses were correctly stated.
    b. An appropriate research design to test the hypotheses was selected.
    c. The research design was described.
    d. The research design was implemented to test the hypotheses.
    e. The research design to test the hypotheses was evaluated to determine its effectiveness and appropriateness.

14. Identify the population for a research study.

    a. The topic to be studied was identified.
    b. The subjects to be involved in the study were identified.
    c. The relative proportion of different types of subjects was identified.
    d. The geographic location of subjects was identified.
    e. Possible constraints to involving elements of the population were identified, i.e. inability to read, inability to write, geographic inaccessability, possible negative attitudes, etc.

15. Select and use appropriate sampling technique(s).

    a. A representative group from the population to serve as respondents was selected.
    b. A random sample table or other generators were used to limit the probability that the researchers will choose a biased sample.
    c. Appropriate sampling techniques were selected.

16. Recognize and/or control threats to internal and/or external validity of experimental and quasi-experimental studies.

    a. Materials, conditions, and procedures used within the experiment were identical or as nearly identical as possible for experimental and control subjects.
    b. Biases were controlled in selecting the population of the control/experimental groups.
    c. The manner of collecting and recording data as the experiment proceeded was controlled for consistency.
    d. When possible, pre-testing was avoided to prevent bias.
    e. The appropriate design was used to insure the desired level of internal validity.
    f. The study was designed to insure generalizability to the extent intended.
    g. The samples drawn for the study were representative of the defined population so that findings could be generalized to that population.

17. Establish instrument reliability and validity.

    a. The appropriate method for determining reliability was used.
    b. The appropriate method for establishing instrument validity was employed.
    c. Interpretation of the measures of reliability and validity were accurate.
    d. Consideration was given to both the technical requirements of test reliability and validity and to the practical implications of the finding for the problem as stated.

18. Control extraneous variables in experimental research.

    a. An experimental research design, to control extraneous variables was selected.

19. Construct and use nominal, ordinal, interval and ratio measurement scales.

    a. The appropriate measurement scale was selected to measure the required types of data.
    b. The instrument was designed for the selected scale.

Table 11 (continued)

Category B: Conducting Research (continued)

20. Construct appropriate instrument for measuring variables.

    a. The instrument was designed to collect the desired data.
    b. The constructs to be measured were identified.
    c. Each item constructed reflected a single thought.
    d. Items were clearly stated.

21. Construct and use instruments and techniques to assess cognitive skills.

    a. Dimensions of the construct to be measured were identified.
    b. Items were written to reflect the dimensions of the construct to be measured.
    c. Items were submitted to the jury for content validation.
    d. Instrument reliability and validity were established.

22. Review and select appropriate standardized tests or instruments.

    a. Buros Mental Measurement Yearbook and other literature were consulted.
    b. Standardized tests or aptitude batteries needed for a particular task were determined and selected.

23. Select and use appropriate method for statistical analysis of data.

    a. The statistical analysis appropriate to test the hypothesis identified was selected.
    b. A statistical analysis based on the research design was selected.
    c. The statistical analysis appropriate for the measurement scale was selected.
    d. The assumptions for the statistics selected were met.

24. Use computer related equipment in data preparation and analyses.

    a. The types of computer related equipment available for use were identified.
    b. The appropriate computer related equipment was selected for use.

25. Prepare data for computerized analyses.

    a. The data were prepared for computer programming.
    b. The processed data were reviewed for errors.

26. Select and utilize standardized computer programs.

    a. Standardized computer programs were identified and reviewed.
    b. The appropriate statistical package was selected and utilized for the desired statistical analysis.

27. Read and interpret computer printouts.

    a. Reference was made to the SPSS, BMD manuals, and other statistical reference books.
    b. Appropriate interpretation of computer printouts was made.

28. Report findings of research or evaluation (written and oral) in appropriate style and form for intended audience.

    a. The report was written in appropriate terms for the hypotheses and statistics used.
    b. The intended audience was identified.
    c. A suitable style was selected.

29. Translate data analyses into recommendations for action.

    a. The data were analyzed and interpreted accurately.
    b. Recommendations drawn were based on data analysis (research findings).
    c. Evaluation studies: Solutions were suggested which relate directly to the problem that created the inquiry.

30. Interpret and draw appropriate conclusions from data analysis.

    a. Conclusions were limited to the research findings or to the population.
    b. Conclusions drawn were within the limits of the data analysis selected.

55. Construct and use instruments and techniques to assess affective variables.

    a. Dimensions of the construct to be measured were identified.
    b. Items were written to reflect the dimensions of the construct to be measured.
    c. Items were submitted to the jury for content validation.
    d. Instrument reliability and validity were established.

56. Construct and use instruments and techniques to assess psychomotor skills.

    a. Psychomotor skills to be measured were identified.

Table 11 (continued)

Category B: Conducting Research (continued)

b. The appropriate method of measuring the identified skills was identified.
c. Measuring devices were constructed.
d. The reliability and validity of the measuring devices were determined.
e. The instruments were utilized correctly.

Category C: Evaluation

31. Select an evaluation design appropriate for programs of vocational education.

a. All aspects of vocational education to be evaluated were identified.
b. The appropriate techniques of evaluation were employed to evaluate the dimensions.

32. Implement an evaluation design for vocational education programs.

a. Affected vocational education personnel were informed of the evaluation process.
b. Affected vocational education personnel were prepared to conduct or participate in the designed evaluation.
c. The anticipated outcomes of the designed evaluation were attained.

33. Conduct student follow-up studies.

a. An instrument for conducting student follow-up was constructed.
b. The desired follow-up procedures were implemented.
c. An analysis of data was made.
d. The data was interpreted and the conclusions drawn.
e. Restrictions relating to the Buckley Amendment were considered in instrument design, data collection and analysis, etc.
f. The data, interpretations and conclusions were disseminated to teachers and key decision makers as a basis for program modification, where needed.
g. The objectives of the study were accomplished.

34. Conduct employer follow-up studies.

a. An instrument for conducting student follow-up was constructed.
b. Necessary precautions were taken to comply with the Buckley Amendment.

35. Utilize a consulting team in evaluating vocational programs.

a. The role of the consulting team member was clarified.
b. The duties of the consulting team members were enumerated.
c. The procedure for visitation and reporting was prescribed.
d. The procedures were implemented.
e. A final report was delivered from the consulting team containing strengths of the program, observed deficiencies and suggested solutions.

36. Participate as a member of an evaluation consulting team.

a. The consulting team members understood their assignments.
b. The consulting members conducted the evaluation.
c. The evaluation findings were reported in a manner consistent with the type of inquiry being conducted.

37. Evaluate vocational education instructors.

a. Instructional evaluation criteria and procedures were identified.
b. The criteria were applied to the instructor as intended.
c. Feedback from the evaluation was useful.

38. Conduct cost, cost benefit, and cost effectiveness analyses of vocational programs.

a. Procedures for cost analysis were developed.
b. Report of the cost analysis was made to appropriate decision makers.

39. Prepare written evaluation reports of vocational programs.

a. The required information was gathered.
b. The report was understandable.
c. The report was based on evaluation findings.
d. The report included commendations, observed discrepancies, and recommendations.

40. Utilize evaluation results to plan changes in vocational programs.

a. Needed changes were identified.
b. Alternative strategies for making needed changes were formulated.

Table 11 (continued)

Category C: Evaluation (continued)
c. Concurrence was reached regarding strategies for making planned changes.
41. Evaluate learner performance in vocational subjects.
a. Performance standards were identified. b. Learner performance was compared with performance standards identified. c. Evaluation results were provided to the learner with commendations and recommendations.
42. Identify intended and unintended outcomes of vocational programs.
a. Original objectives were reviewed and compared with program outcomes. b. Outcomes not specified in objectives were identified.
43. Assess the value and feasibility of program goals.
a. The program goals were compared to societal needs. b. Available resources were considered to determine the feasibility of program goals.
44. Determine discrepancies between actual and intended program outcomes.
a. Program outcomes were identified. b. Program outcomes were reviewed. c. Discrepancy analysis was made between the two.
45. State objectives in measurable terms.
a. Objectives were behaviorally stated. b. Criteria were stated in measurable terms.
46. Identify standards or norms for judging the worth of vocational programs.
a. Existing value statements for judging vocational programs were identified. b. Value statements for judging specific vocational programs were identified.
Category D: Management
47. Identify potential sources for submitting proposals.
a. Directories for federally funded projects were located and used. b. Funding sources within state agencies were identified (e.g., State University System, Department of Education, Division of Vocational Education). c. Communications with appropriate funding sources were developed.
48. Write proposals including estimates of time, human and financial resources required.
a. Criteria established by the funding agency were utilized to write a proposal for funding. b. Budgets, staffing, timelines for adequate performance of the written proposal were established.
49. Utilize management and planning systems such as PERT.
a. Desired management systems were identified. b. The management system compatible to the management requirements of the project was selected.
50. Monitor programs to detect deviations from design or procedures.
a. Formative evaluation was continuous during the life of the project. b. Components of the project were monitored.
51. Conduct research that involves human subjects in an ethical fashion.
a. Reference was made to Public Law 93-348, 1974, Title II, "Protection of Human Subjects of Biomedical and Behavioral Research." b. Procedures adopted for the research project were developed to insure the confidentiality of data. c. The Spirit of the Ethics Code of the American Educational Research Association was adhered to.

Table 11 (continued)

Category D: Management (continued)

52. Conduct research projects that conform to legal restraints (e.g., affirmative action).

    a. Legal restraints for conducting research projects were identified, e.g., affirmative action, Buckley Amendment.
    b. Reference was made to Public Law 93-348, 1974, Title II, "Protection of Human Subjects of Biomedical and Behavioral Research."
    c. Research projects were developed to comply with identified legal restraints.

53. Implement a management plan that will get a research project started in an efficient manner.

    a. A management plan was developed utilizing selected systems.
    b. The management plan was implemented in conducting the project.

54. Terminate a research project including appropriate fiscal management and the delivery of required reports.

    a. Audit procedures were maintained to prevent overspending of line items, particularly activities arrived at during project completion.
    b. Be assured that all encumbrances were made to the project prior to the terminating date, including appropriate lead time required by the institution.
    c. The final project report was prepared, printed, and delivered by the termination date of the project.
    d. The necessary financial reports needed for reimbursement for project expenditures were submitted.

APPENDIXES

APPENDIX A

INSTRUCTIONS

Listed below are various RESEARCH & EVALUATION skills which may or may not be important to persons in positions similar to yours. Please read each item carefully and rate each item based on its importance to persons in positions similar to yours. There are no right or wrong responses; some items may be very important, while others may not be important. Please rate the importance of each item by circling the appropriate number to the right, from: 1 = Very Important to 6 = Not Important. Note that the first item has been marked as an example.

	Very Important					Not Important
0. Use sound principles of public speaking	1	(2)	3	4	5	6
1. Locate journals that publish research reports in your field	1	2	3	4	5	6
2. Use the ERIC system	1	2	3	4	5	6
3. Use library resources (Index, Reader's Guide, card catalog, CIJE, etc.).	1	2	3	4	5	6
4. Gather information from colleagues and other informal sources	1	2	3	4	5	6
5. Identify, abstract, review and evaluate research reports and articles reporting research in your field.	1	2	3	4	5	6
6. Synthesize the results of research studies	1	2	3	4	5	6
7. Draw accurate conclusions or inferences from research reports	1	2	3	4	5	6
8. Determine the type of research (descriptive, correlation, experimental, etc.) that should be utilized.	1	2	3	4	5	6
9. Identify and clearly state a researchable topic.	1	2	3	4	5	6
10. Clearly state the problem and rationale for research or evaluation	1	2	3	4	5	6
11. Correctly state hypotheses or clearly state questions to be answered from research	1	2	3	4	5	6
12. State appropriate assumptions, limitations and definitions for a research or evaluation project	1	2	3	4	5	6
13. Select, fully describe and carry out appropriate research design to answer research questions or test hypotheses.	1	2	3	4	5	6
14. Identify the population for a research study	1	2	3	4	5	6
15. Select and use appropriate sampling technique(s)	1	2	3	4	5	6
16. Recognize and/or control threats to internal and/or external validity of experimental and quasi-experimental studies	1	2	3	4	5	6
17. Establish instrument reliability and validity	1	2	3	4	5	6
18. Control extraneous variables in experimental research.	1	2	3	4	5	6
19. Construct and use nominal, ordinal, interval & ratio measurement scales.	1	2	3	4	5	6
20. Construct appropriate instrument for measuring variables.	1	2	3	4	5	6
21. Construct & use instruments and techniques to assess cognitive skills	1	2	3	4	5	6
22. Review and select appropriate standardized tests or instruments	1	2	3	4	5	6
23. Select and use appropriate method for statistical analysis of data	1	2	3	4	5	6
24. Use computer related equipment in data preparation and analyses	1	2	3	4	5	6
25. Prepare data for computerized analyses.	1	2	3	4	5	6
26. Select and utilize standardized computer programs	1	2	3	4	5	6
27. Read and interpret computer printouts	1	2	3	4	5	6
28. Report findings of research or evaluation (written and oral) in appropriate style and form for intended audience	1	2	3	4	5	6
29. Translate data analyses into recommendations for action	1	2	3	4	5	6
30. Interpret and draw appropriate conclusions from data analysis	1	2	3	4	5	6
31. Select an evaluation design appropriate for programs of vocational ed.	1	2	3	4	5	6
32. Implement an evaluation design for vocational education programs	1	2	3	4	5	6
33. Conduct student follow-up studies	1	2	3	4	5	6
34. Conduct employer follow-up studies	1	2	3	4	5	6

53

	Very Important					Not Important
35. Utilize a consulting team in evaluating vocational programs.	1	2	3	4	5	6
36. Participate as a member of an evaluation consulting team.	1	2	3	4	5	6
37. Evaluate vocational education instructors.	1	2	3	4	5	6
38. Conduct cost, cost benefit, & cost effectiveness analyses of voc. programs.	1	2	3	4	5	6
39. Prepare written evaluation reports of vocational programs	1	2	3	4	5	6
40. Utilize evaluation results to plan changes in vocational programs.	1	2	3	4	5	6
41. Evaluate learner performance in vocational subjects	1	2	3	4	5	6
42. Identify intended and unintended outcomes of vocational programs	1	2	3	4	5	6
43. Assess the value and feasibility of program goals	1	2	3	4	5	6
44. Determine discrepancies between actual and intended program outcomes.	1	2	3	4	5	6
45. State objectives in measurable terms	1	2	3	4	5	6
46. Identify standards or norms for judging the worth of vocational programs	1	2	3	4	5	6
47. Identify potential sources for submitting proposals	1	2	3	4	5	6
48. Write proposals including estimates of time, human and financial resources required	1	2	3	4	5	6
49. Utilize management and planning systems such as PERT	1	2	3	4	5	6
50. Monitor programs to detect deviations from design or procedures	1	2	3	4	5	6
51. Conduct research that involves human subjects in an ethical fashion	1	2	3	4	5	6
52. Conduct research projects that conform to legal restraints (e.g., affirmative action)	1	2	3	4	5	6
53. Implement a management plan that will get a research project started in an efficient manner	1	2	3	4	5	6
54. Terminate a research project including appropriate fiscal management and the delivery of required reports.	1	2	3	4	5	6
55. Construct & use instruments and techniques to assess affective variables	1	2	3	4	5	6
56. Construct & use instruments and techniques to assess psychomotor skills	1	2	3	4	5	6

In the blanks below, please add any additional Research or Evaluation skills that you feel are important. Please rate the importance of these additional skills.

57. _____	1	2	3	4	5	6
58. _____	1	2	3	4	5	6
59. _____	1	2	3	4	5	6
60. _____	1	2	3	4	5	6

Please check the appropriate response for each item as it applies to you in your current position.

PROFESSIONAL DATA

1. Your present title/subject: _____

2. No. Years in present position: ___1-5; ___6-10; ___11-15; ___16-25; ___over 25.
3. Total No. Years in Vocational Education: ___1-5; ___6-10; ___11-15; ___16-25; ___over 25.
4. Level(s) of teaching experience: ___Middle School; ___Secondary; ___Comm. College; ___Adult; ___Univ.
5. Total No. Years work experience (outside field of education): ___1-5; ___6-10; ___11-15; ___16-25.
6. Highest degree held: ___High School; ___Associate; ___Bachelor's; ___Master's; ___Advanced Master's; ___Doctorate; No. of quarter hours beyond your highest degree: _____.
7. Age: ___20-30; ___31-40; ___41-50; ___51-60; ___over 60.
8. Sex: ___Male; ___Female.

APPENDIX B

College of Education
Vocational Education
904 Wildwood Drive

The Florida State University
Tallahassee, Florida 32306

November 12, 1975

I am writing to ask your assistance in an exemplary research project which is being conducted by the Vocational Education Department at FSU. This project is designed to develop a competency based approach to teacher education.

We would like to make use of your expertise in vocational research and evaluation in this project. Would you assist us by rating the attached list of research and evaluation competencies as to their importance for someone who is entering a position similar to yours?

We know that your professional duties require all of your time. However, since there are a limited number of teacher educators in Florida, it is important that we receive as many responses as possible. If at all possible, please complete and return this competency list by November 30, 1975. A business reply envelope is enclosed.

Your assistance will be greatly appreciated. We look forward to receiving your responses.

Sincerely yours,

Robert E. Andreyka

Robert E. Andreyka
Program Leader

REA:emo

ENC: Competency List
Return Envelope

APPENDIX C

College of Education
Vocational Education
904 Wildwood Drive

The Florida State University
Tallahassee, Florida 32306

November 12, 1975

We are interested in your opinion! We are in the process of identifying research and evaluation skills that are important to administrators, supervisors and coordinators of vocational education programs. Research and related skills identified as important may then be included in university programs designed to prepare individuals in these areas. Practitioners in the field, such as you, are the most qualified source from which to determine the research skills that are most important. We ask for your assistance by doing the following:

1. Please complete the enclosed instrument which lists various research and related competencies and return to us by November 26 in the enclosed business envelope. Also,

2. Please distribute the additional two packets enclosed which contain an identical instrument and a cover letter to local vocational administrators, supervisors or coordinators in your area (other than area voc-tech directors) who you feel have the greatest expertise in the area of research and evaluation.

We realize your professional duties require much of your time; however, you are the most qualified source to determine which research skills are important. Perhaps you received a similar instrument earlier listing skills in a different area of vocational education. If so, please accept our apologies for this second instrument. However, we would very much like to have the benefit of your opinion about the importance of research skills as well as skills in this second area. We look forward to receiving your reply.

Sincerely,

Robert E. Andreyka

Robert E. Andreyka
Program Leader

enc.

APPENDIX D

College of Education
Vocational Education
904 Wildwood Drive

The Florida State University
Tallahassee, Florida 32306

November 12, 1975

TO: Selected Administrators, Supervisors or Coordinators of Vocational Programs.

Dear Colleague:

You have been identified by your county vocational director as a local vocational education administrator, supervisor or coordinator who has expertise in the area of research and evaluation. We need your help! We are now in the process of identifying research and evaluation skills that are important to administrators, supervisors and coordinators of vocational education programs. Research skills identified may then be included in university programs designed to prepare individuals in these areas. Practitioners in the field, such as you, are the most qualified source to determine research skills that are most important.

We ask your assistance by completing the enclosed instrument and returning it to us by November 26, in the business reply envelope provided. We realize your professional duties require a great deal of your time; however, you are the most qualified source to identify important research competencies. Your help will be greatly appreciated. We look forward to receiving your response.

Sincerely,

Robert E. Andreyka

Robert E. Andreyka
Program Leader

REA/cc

enc.

APPENDIX E

College of Education
Vocational Education
904 Wildwood Drive

The Florida State University
Tallahassee, Florida 32306

December 5, 1975

Recently we mailed a survey packet asking you to participate in an exemplary project. This project, and this particular sub-section relating to Research Competencies, is being conducted by the Vocational Education Department at Florida State University. If you have already returned the instrument sent you, please disregard this letter and instrument.

We may have been unrealistic in setting our deadline, thus we are delaying our date for analysis of the data to December 19.

We would appreciate your assistance by completing the enclosed survey instrument and the professional data section, and returning it as soon as possible. Your reply is vital to the success of this research study. May we hear from you by December 19?

Your response to this request will be appreciated.

Sincerely,

Robert E. Andreyka

Robert E. Andreyka
Program Leader

REA:emo

ENC: Survey Instrument
Return Envelope

APPENDIX F

Open-Ended Responses By Vocational Educators

Conducting Research

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1. Use of extraneous evaluators (to preserve legitimacy, clarification of conclusions) of goal identification. Immediate applicability of conclusions.
2. Use objectivity in dealing with affective problems.
3. Develop a theoretical base for the study.
4. Develop delimitations for the study.
5. Draw implications from the study.
6. Develop an understanding and working knowledge of statistics.
7. Utilize manpower data to maintain relevant occupational instruction. Participate in profile data gathering.
8. Ability to identify what needs to be studied. Elimination of unwarranted duplication of effort.
9. Measure validity of instrument design in follow-up studies.
10. Measure validity of respondents to studies; chi square.
11. Design of proper instrument to collect needed data.

Evaluation

---

1. Ability to draw inferences from daily program operations. Correlation of written research with actual vocational operation, funding and evaluation of program content on the local level.
2. Identify teacher performance instrument.

Evaluation - continued

3. Determine the value of human relation skills. Determine how to measure and evaluate human relation skills.

4. Tactfulness in making program changes.

5. Strategies for implementing "action" based on results of collected data.

6. Identify and develop standards for judging vocational teacher accountability. Evaluate vocational course content in terms of current needs, trends and practices of related industry.

Management

1. Assess time, human and financial resources available for research in view of job responsibilities and local finance.

2. Ability to meet with business leaders.

3. Biggest thing is to select staff and use them.

Miscellaneous

1. Survey population needs to determine most urgent requirements for research efforts to be used.

2. Does the teacher like to teach?

3. Does the teacher like young people?

4. Many of these only become important when given a major research and evaluation project.

5. Expertise in involving citizens.

6. Research: What does industry need and want from vocational students?

APPENDIX G

College of Education
Vocational Education
202 South Woodward

The Florida State University
Tallahassee, Florida 32306

April 19, 1976

We need your help in determining how to assess when vocational education teachers and related personnel have attained important professional competencies. The Vocational Education Program at FSU recently completed a study which identified professional competencies important to vocational teachers and related personnel.

The next phase of this project will be to identify assessment criteria for each competency. These criteria will be used to assess whether competencies have been attained. You have been identified as having expertise in one of the areas within the project. We would like to request your participation on a "jury" to examine a preliminary list of criteria and to recommend revisions.

We will be able to offer you an honorarium of $50 in appreciation for your help. Your participation will contribute to the development of more effective teacher education programs in Florida.

We will contact you soon to answer any questions you may have and determine if you are able to participate. Thank you.

Sincerely,

Robert E. Andreyka

Robert E. Andreyka
Program Leader

REA/lm

APPENDIX H

College of Education
Vocational Education
202 South Woodward

The Florida State University
Tallahassee, Florida 32306

M E M O R A N D U M

TO: Jury Members for Validation of Assessment Criteria

FROM: Robert E. Andreyka

DATE: April 26, 1976

Dear Colleague:

We appreciate your agreeing to serve on a jury to examine criteria that will be used to assess whether vocational educators have mastered important competencies. Please find attached a list of your responsibilities as a jury member and an outline and example of the types of criteria statements desired. Also attached is a brief overview of the Exemplary Competency-Based Vocational Teacher Education project, of which criteria identification and validation is a part.

A graduate assistant assigned to the project will be working closely with you. This individual will bring or mail the preliminary criteria statements to you and pick them up or supply mailing envelopes for your returning them.

Again, our thanks for your professional contribution to this project.

APPENDIX I

FLORIDA STATE UNIVERSITY
VOCATIONAL EDUCATION

Competency-Based Vocational Teacher Education Project

Responsibilities of Jury Members

1. Carefully examine the assessment criteria listed for each competency.
2. Determine if each criteria statement can be used to assess whether individuals have mastered the competency.
3. Make any additions, deletions, corrections or comments to the criteria statements you wish.
4. Have your revisions ready to be picked up or mail them by the date specified.

Criteria Statements Desired. When examining criteria statements, please determine if the criteria for each competency have the following characteristics:

1. Criteria statements covered all key elements of the competency.
2. Criteria statements were based entirely on the competency.
3. Criteria statements were written in past tense.
4. Criteria statements could receive only "yes" or "no" response.
5. Criteria were objective (did not rely heavily on judgement).

Example. Below is an example of a typical competency and appropriate criteria statements:

Component: Teaching in Trade and Industrial Education

Competency Category: Instructional Planning

Competency: Write a lesson plan.

Assessment Criteria:

1. The lesson was based on specific student performance objectives.
2. The introduction to the lesson was prepared.
3. An outline of the major concepts of the lesson was prepared.
4. The techniques and methods to be used in presenting the lesson were identified.
5. Learning experiences were selected based on the individual differences of students.
6. A summary of the lesson was prepared.
7. Evaluation devices/techniques were identified.
8. Resource materials were specified.

FLORIDA STATE UNIVERSITY
VOCATIONAL EDUCATION

Competency-Based Vocational Teacher Education Project

One of the main objectives of the Competency-Based Project at Florida State University is to change the teacher education curriculum from the traditional course-oriented approach to the more individualized competency or performance based approach. Instead of selecting a variety of courses in different vocational areas, individuals will work towards mastering important competencies. Where will the competencies come from? Vocational educators in Florida who are currently serving as teachers, administrators and related professionals have been involved in the competency identification process.

The Project is composed of several phases and includes the areas of Administration and Supervision, Career Education, Cooperative Vocational Education, Disadvantaged, Handicapped, Industrial Arts, Research, Trade and Industrial, and Technical Education. The team approach to identifying competencies in each area has been used, with graduate assistants, FSU faculty and other advisors as members of each team. During the Fall Quarter, each team identified a preliminary list of skills that were considered necessary for success in the different areas, such as administration, career education, etc. Each list was presented to a panel of experts for additions, corrections and revisions. The final list was developed into a questionnaire and sent to a sample of Florida vocational educators. These practitioners rated the competency statements as to <u>importance</u> for vocational educators in positions similar to their own. The team spent the Winter Quarter analyzing the results and determining which competency statements were considered most important. During the

Spring Quarter, the teams have been writing assessment criteria for the various competency statements. These criteria statements are now ready for examination by a jury. A jury has been selected for each area within the project to examine the criteria statements and recommend appropriate revisions.

The criteria for each competency will be used to determine whether individuals have mastered the competency. The criteria statements will be incorporated onto a check list that an evaluator may use to assess the individual's performance during or after the competency has been demonstrated.

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